

Claims

1. Four isolated isoformes of peptide, with anti-hypertensive properties, named as TsHpt-I (Tityus serrulatus Hypotensin-I), TsHpt-II (Tityus serrulatus Hypotensin-II), TsHpt-III (Tityus serrulatus Hypotensin-III) and TsHpt-IV (Tityus serrulatus Hypotensin-IV), and refereed as listed sequences SEQ ID NO: 1; SEQ ID NO: 2; SEQ ID NO: 3 and SEQ ID NO: 4.

2. Other peptides from scorpions (presently taxonomic classification as follows: Eukariota; Metazoa; Arthropoda, Chelicerata; Arachnida; Scorpiones) belonging to the same pharmacologically active and structurally peptide family, characterized by two or more following features: i) lack of Cystein residues and, therefore, no internal disulfide bridges; ii) a molecular signature at the C-terminal ending or portion, described as: Xaa-Pro-Pro and Xaa-Pro-Pro-Ala, where Xaa is any amino acid residue; iii) pairs of amino acid residues such as Pro-Pro, Lys-Glu, Lys-Asp, Arg-Glu, Arg-Asp, Ile-Ile, Ile-Leu, Leu-Leu, Leu-Ile, which form a protective shield against amino-, endo- and carboxi-proteinases enzymes; iv) Hypotensive effects using "in vivo" tests (bioassays) in vertebrates. This family of scorpion peptides will be refereed hereinbelow as Scorpion Hypotensive Peptides (SHptP).

3. Synthetic peptides comprising complete, partial or modified sequences of claim 1 and/or molecular signatures of claim 2.

4. A nucleic acid molecule that codify for peptides of claim 1 and/or peptide family of claim 2.

5. Isolated and purified peptides of claim 1 and/or claim 2 wherein peptides are produced by recombinant techniques using any virus system, any bacterial system, any fungal system or any other prokaryotic or eukariotic system or combination thereof.

6. A method for producing any administrable pharmaceutical composition comprising the complete, partial or modified amino acid sequences of claim 1 and claim 2.

7. A method for producing any genetically modified virus, bacteria, fungi, plant or any other recombinant techniques using any virus system, any bacterial system, any fungal system or any other prokaryotic or eukariotic system or combination thereof, in order to use these organisms as excipient or vector for complete, partial or modified sequences of claim 1 and/or claim 2.

8. A pharmaceutical composition comprising an anti-hypertensive amount of peptides of claim 1.

9. A method for labeling and/or chemically modifying peptides of claim 1 and claim 2.